



# List organisms used for research

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**Welcome!!**



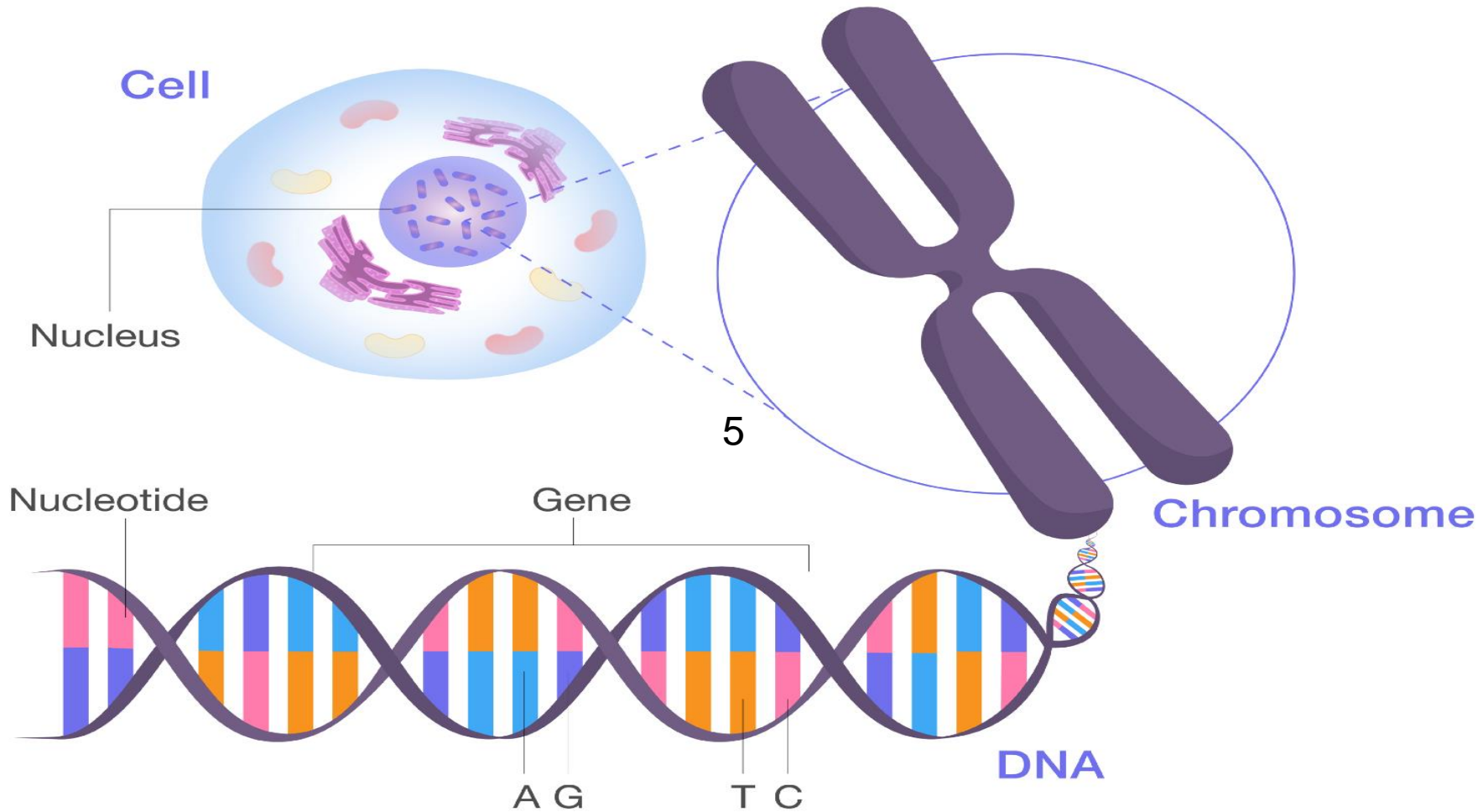
By the end of this presentation  
You will able to :

- 01 Define geneticist
- 02 Describe time line
- 03 List organisms use for research
- 04 List application of genetics
- 05 Advantages and disadvantage of genetic engineering



# Genetics

Is the study of genes, genetic variation, and heredity in living organisms.



# Timeline



8000 BC  
humans begin  
altering livestock



1888  
chromosome  
discovered



1996  
Dolly the  
sheep cloned



future  
ultra high-speed  
sequencing technology



300 BC  
grafting techniques  
developed

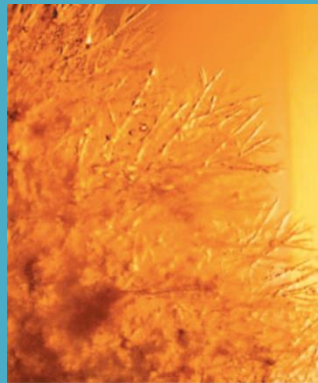


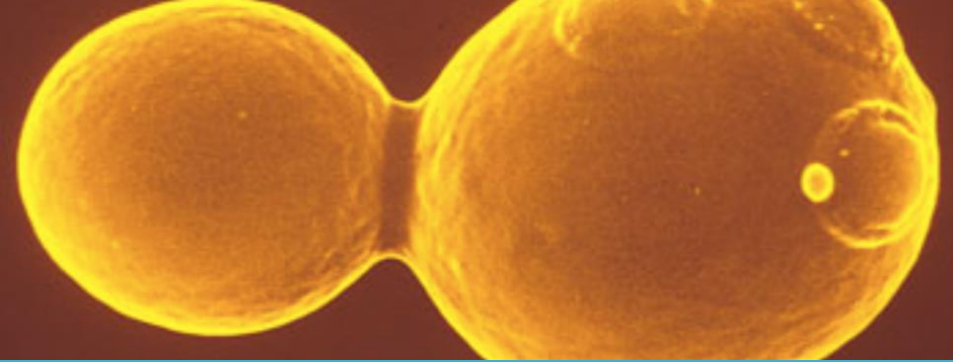
1953  
structure of  
DNA discovered



1998  
rough draft of human  
genome map produced

# List organisms for research



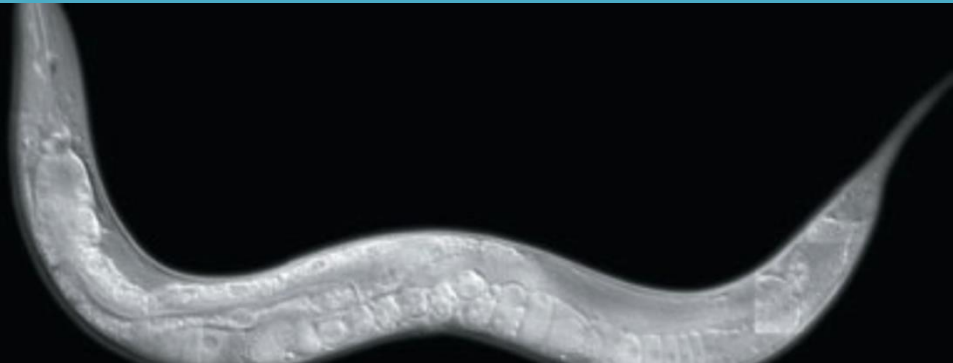


**A budding yeast**

**Fruit fly**



**A nematode**





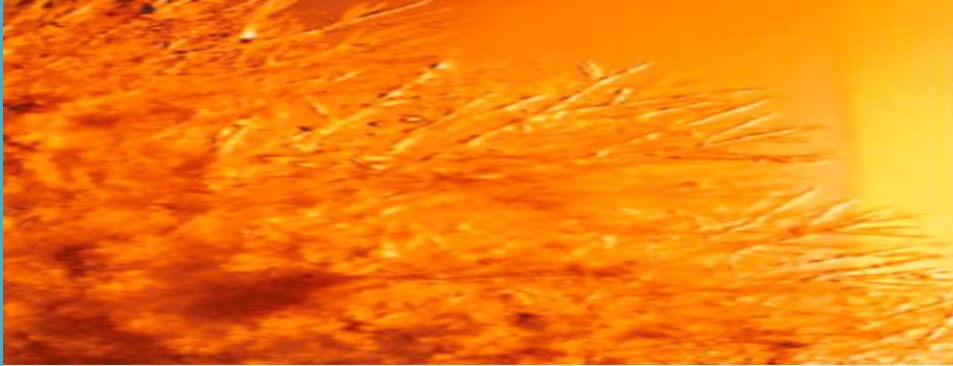


**Thale cress, a member of  
the mustard family**

**Mouse**

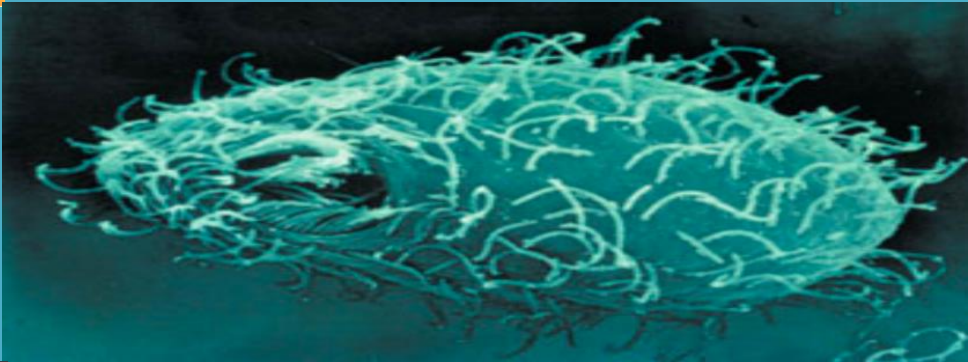


**Human**

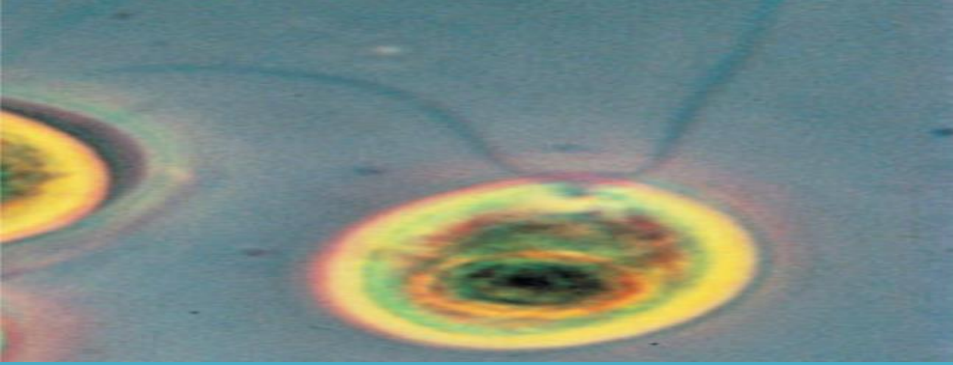


**Orange bread mold**

**Tetrahymena  
(A protozoan)**



**Paramecium  
(A protozoan)**



**A green alga**

**A garden pea**



**Corn**

# Major applications of genetic engineering

**Genetic engineering has applications in:**

- Medicine
- Research
- Industry and agriculture
- Used in a wide range of plants, animals and microorganisms.

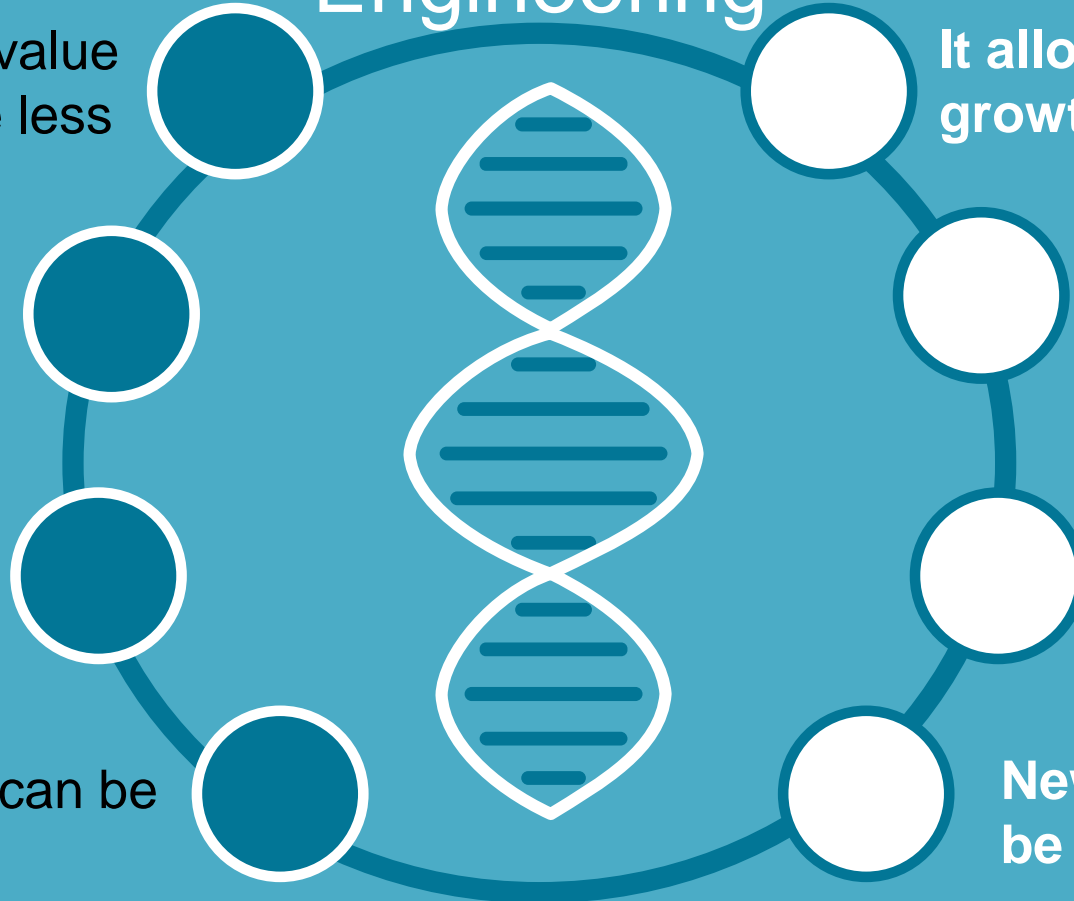
# Advantages and Disadvantages of Genetic Engineering

The nutritional value of foods can be less

There can be negative side effects that are unexpected.

The amount of developed can be less favorable

This knowledge can be easily abused.



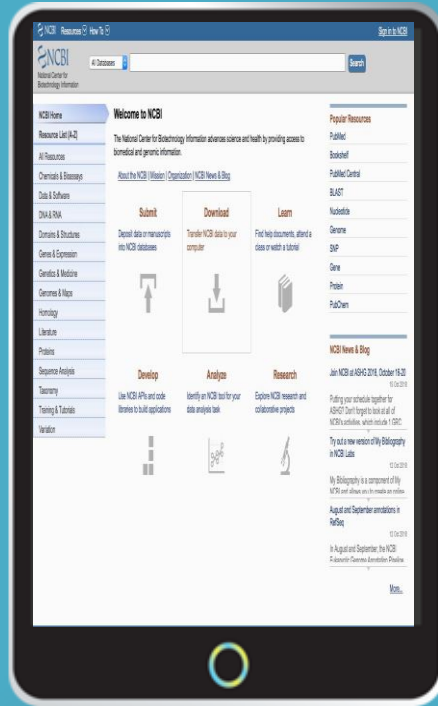
It allows for a faster growth rate

It can create an extended life

Specific Traits can be developed

New products can be created

# National Center for Biotechnology Information (NCBI)



- Learn.
- Analyse.
- Research.

A close-up photograph of a scientist in a white lab coat. The scientist is using a pipette to transfer liquid from a small vial into a test tube. The background is a solid blue color.

## ***Summary of this presentation :***

- Genetics is the study of heredity in living organisms.
- Genetic engineering has applications in medicine, research..etc .
- organisms for research:(fruit fly and human....etc.
- Advantages & disadvantages.
- very important website ( NCBI).



# References:

- Griffiths, Anthony J. F.; Miller, Jeffrey H.; Suzuki, David T.; Lewontin, Richard C.; Gelbart, eds. (2000)
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- [Peter\_J.\_Russell]\_iGenetics\_a\_molecular\_approach (chapter 1/ page 6)
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Thank you